<u>CLAIMS</u>

2 \ What is claimed is:

1. An apparatus having an RF circuitry portion

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and antenna creating an electromagnetic field; and

4 an active shield substantially canceling the effects

5 of the electromagnetic field in a predetermined region.

- 1 2. The apparatus of claim 1, wherein said active shield
- 2 is coupled to the RF circuitry portion of the device.
- 1 3. The apparatus of claim 2, further comprising:
- 2 an adjustment circuit located between said
- 3 antenna and said RF circuitry portion.
- 4. The apparatus of claim 2, further comprising:
- 2 a coupler located between said RF circuitry
- 3 portion and said active shield.
- 1 5. The apparatus of claim 3, further comprising:
- 2 a coupler located between said RF circuitry
- 3 portion and said adjustment circuit

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- 2 circuit receives a reduced antenna signal.
- 1 7. The apparatus of claim 6, wherein said reduced antenna
- 2 signal is approximately ten percent of the antenna signal.
- 1 8. The apparatus of claim 3, wherein said adjustment
- 2 circuit includes a phase shifter.
- 1 9. The apparatus of claim 3, wherein said adjustment
- 2 circuit includes a variable gain amplifier.
- 1 10. The apparatus of claim 3, wherein said adjustment
- 2 circuit includes an attenuator.
- 1 11. The apparatus of claim 3, further comprising:
- 2 a sensor located in proximity to said active shield.
- 1 12. The apparatus of claim 3, further comprising:
- a feedback circuit for controlling the adjustment
- 3 circuit.
- 1 13. The apparatus of claim 1, wherein said
- 2 predetermined region is near an operator's earpiece.

 $1 \frac{1}{4}$ 14. A communication apparatus having an RF circuitry

- 2 portion comprising:
- an antenna creating an electromagnetic field; and
- a plurality of active shields for canceling the
- 5 effects of the electromagnetic field in a predetermined region.
- 1 15. The communication apparatus of claim 14, further
- 2 comprising a plurality of adjustment circuits located between
- 3 the RF circuitry portion and said plurality of active shields.
- 1 16. The communication apparatus of claim 15, wherein each
- 2 of said adjustment circuits include a phase shifter and a
- 3 variable gain amplifier.
- 1 17. The communication apparatus of claim 15, further
- 2 comprising:
- a plurality of feedback circuits to control the active
- 4 shields.
- 1 18. The communication apparatus of claim 15, wherein said
- 2 number of active shields is approximately four.

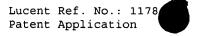
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A communication apparatus comprising:

an antenna creating an electromagnetic field; and

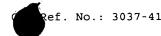
- a means for canceling the effects of the
- 4 electromagnetic field in a predetermined region.
- 1 20. A\method comprising:
- 2 generating an electromagnetic field from an antenna;
- 3 and
- 4 canceling the effects of the electromagnetic field in
- 5 a predetermined region using an active shield.
- 1 21. The method\of claim 20, wherein the step of canceling
- 2 further comprises:
- 3 coupling an RR circuitry portion to an active shield
- 4 through an adjustment circuit.
- 1 22. The method of claim 20, wherein the step of canceling
- 2 further comprises:
- 3 phase shifting and amplifying a signal from the
- 4 antenna before the signal reaches the active shield.
- 1 23. The method of claim 22\ wherein the step of canceling
- 2 further comprises:
- feeding back from a sensor located in proximity to
- 4 said active shield a signal which is used to vary the phase
- 5 shifting and amplifying.



1)24. A method comprising:

- 2 generating an electromagnetic field from an antenna;
- 3 and
- 4 canceling the effects of the electromagnetic field in
- 5 a predetermined region using a plurality of active shields.
- 1 25. An apparatus comprising:
- 2 means for generating an electromagnetic field from an
- 3 antenna; and
- 4 means for canceling the effects of the electromagnetic
- 5 field in a predetermined region using an active shield.
- 1 26. The apparatus of claim 25, wherein the canceling means
- 2 further comprises:
- means for coupling an RF circuitry portion to an
- 4 active shield through an adjustment circuit.
- 1 27. The apparatus of claim 25\ wherein the canceling means
- 2 further comprises:
- means for phase shifting and amplifying a signal from
- 4 the antenna before the signal reaches \the active shield.

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The apparatus of claim 27, wherein the canceling means 2 further comprises:

3 means for feeding back from a sensor located in

- proximity to said active shield a signal which is used to vary 4
- 5 the phase shilting and amplifying.
- An apparatus comprising: 1 29.
- means for generating an electromagnetic field from an 2
- 3 antenna; and
- means for canceling the effects of the electromagnetic 4
- field in a predetermined region using a plurality of active 5
- shields.